TRS-80 ADDENDA: Loading and Debounce

The TRS-80 version of PHD-1 contains a machine language keyboard debounce routine because of the widespread keyboard bounce problem in the TRS-80. This routine is optional and need not be loaded. It was included because key-bounce errors during data entry would significantly slow down the user. The debounce routine loads into the upper 55 bytes of memory in a 16k level II machine. Therefore, if you desire to use the debounce routine you must answer the memory size prompt as follows:

MEMORY SIZE? 32712

If you need to load a line printer handler or other programs in the same address space (32713-32767) then you cannot use the debounce routine as delivered. The subroutine which loads the debounce routine is located in lines 2480 to 2550. If you are adept with machine language it is a trivial problem to relocate the machine code and load location of the routine. If you don't know how to relocate the routine it is suggested you use the Radio Shack relocatable version of the debounce routine if you have keyboard bounce problems.
After you have answered the memory size prompt PHD-1 loads the same as any standard level II cassette. The program starts at an index of 10 on a CTR-80, and was recorded with a CTR-80 at a level setting of 5. Position the cassette and simply type "CLOAD". PHD-1 will take about 3 minutes to load. If you have loading problems refer to the Radio Shack manual or one of the popular microcomputing magazine articles on cassette loading problems. If you still cannot get a good load, try loading the program into a friends machine or a demo TRS-80 at your local Radio Shack store. If you are convinced that the cassette is bad return it to JOE COMPUTER and we will send you a replacement as quickly as we can.
After you type "RUN" and the logo and disclaimer have appeared, and if you have entered a memory size value of 32712 or less, the program will ask you if you wish to load the debounce routine. If you do, enter "Y". If not, enter "N". If you enter "Y", the following message will appear:

DEBOUNCE ROUTINE IS
LOADING . . . ONE MOMENT PLEASE
TYPE "RUN" WHEN READY PROMPT RETURNS

It will take approximately 10 seconds to load.

Incidentally, the debounce routine will remain active
even if you type "NEW" and cload another program.

EXAMPLE:

```
MEMORY SIZE? 32712
RADIO SHACK LEVEL II BASIC
READY
>CLOAD
```

PUTTING PHD-1 ON DISK

If you have a disk drive on your TRS-80 with more than
16k of memory you may wish to put PHD-1 on disk. The
procedure is as follows:

1. When powering up simply hit "Enter" for
    memory size.

2. From disk basic type 'New (enter).

3. Type CMD "T" (enter).

4. Load the tape as above.

5. Type CMD "R" (enter).

6. Type SAVE "PHD1/BAS" (enter).

7. PHD-1 can now be run from disk by entering
    RUN "PHD1/BAS".

ARCHIVE

In order to activate ARCHIVE it is necessary to remove two comment apostrophes from the basic instructions. This is done using the "D" command in edit mode. The apostrophes are found as the first character in lines 575 and 1525.

Once you have removed the apostrophes the subroutine will be called immediately after the final display and prior to the printer output option prompt. During this time the data will be written to cassette. The cassette must be in record mode.

The race identification number is entered as a response to the "date - race number" prompt which will occur after the "enter number of horses" prompt. This can be any numerical code you desire. The code used in the appendix study used the month (1-12) as the first two digits, the day (1-31) as the middle two digits, and the race number (1-9) as the last two digits. For example the fourth race on August 25 is 082504.

The listing for the TRS-80 ARCHIVE is shown on the following page. In order to read the data tape you will have to create a separate program by deleting the bulk of PHD-1 and leaving ARCHIVE. The arrays A, E$, and B must be dimensioned as 12. A and N must be defined as integer. The for next loop in lines 3001-3004 must be removed. However, line 3004 must remain to read in the race number and the number of horses in the race. All print #-1 statements are changed to input #-1 statements.

When these changes are made the routine when called will read the data tape and return the number of horses as NR, the post position numbers in the array A, the names in string array E$, and the probabilities in array B.

```
3000 'ARCHIVE SUBROUTINE - A(I) IS POST POSITION - E$ IS NAME -
     B(I) IS WIN PROBABILITY. TO ACTIVATE REMOVE  " ' "  IN
     LINES 575 AND 1525 USING EDIT.INSERT A DATA TAPE IN CAS-
     SETTE RECORDER.
3001 FOR I=1TONR
3002 A(I)=OA(I,0):B(I)=OA(I,1)
3004 NEXT:PRINT#-1,RN,NR
3005 ON NR GOTO3010,3020,3030,3040,3050,3060,3070,3080,3090,3100,3110,
     3120
3010 PRINT#-1,A(1),E$(A(1)),B(1)
3015 RETURN
3020 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2)
3025 RETURN
3030 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3)
3035 RETURN
3040 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4)
3045 RETURN
3050 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5)
3055 RETURN
3060 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6)
3065 RETURN
3070 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7)
3075 RETURN
3080 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7),A(8),E$(A(8)),B(8)
3085 RETURN
3090 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7),A(8),E$(A(8)),B(8),A(9),E$(A(9)),B(9)
3095 RETURN
3100 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7),A(8),E$(A(8)),B(8),A(9),E$(A(9)),B(9)
3102 PRINT#-1,A(10),E$(A(10)),B(10)
3105 RETURN
3110 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7),A(8),E$(A(8)),B(8),A(9),E$(A(9)),B(9)
3112 PRINT#-1,A(10),E$(A(10)),B(10),A(11),E$(A(11)),B(11)
3115 RETURN
3120 PRINT#-1,A(1),E$(A(1)),B(1),A(2),E$(A(2)),B(2),A(3),E$(A(3)),B(3),
     A(4),E$(A(4)),B(4),A(5),E$(A(5)),B(5),A(6),E$(A(6)),B(6),A(7),E$(A(7)),
     B(7),A(8),E$(A(8)),B(8),A(9),E$(A(9)),B(9)
3122 PRINT#-1,A(10),E$(A(10)),B(10),A(11),E$(A(11)),B(11),A(12),E$(A(12)),
     B(12)
3125 RETURN
```